

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Akira SHIMOKOHBE et al.

Group Art Unit: 2829

Application No.: 09/556,795

Examiner: A. Sarkar

Filed: April 25, 2000

Docket No.: 106096

For: A THIN FILM-STRUCTURE AND A METHOD FOR PRODUCING THE SAME

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In reply to the July 17, 2003 Office Action and the personal interview conducted with Examiner Sarkar on August 27, 2003, reconsideration of above-identified application is respectfully requested.

Claims 3-22 are pending in this application.

Applicants appreciate the courtesies extended to Applicants' representative during the August 27, 2003 interview. Applicants' separate record of the substance of the interview is incorporated with the following remarks.

In item 2, on page 2 of the Office Action, claim 3 was objected to due to informalities. However, Applicants respectfully traverse the objection. As discussed and agreed during the interview, the viscous flow within the range of 10^{11} - 10^{13} PaS when inserted at a temperature within a super cooled liquid phase region is definite and correct. Accordingly, reconsideration and withdrawal of the objection are respectfully requested.

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In item 4, on page 2 of the Office Action, claims 3-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Saotome et al. ("Saotome") in view of Johnson, U.S. Patent No. 5,950,705. The rejection is respectfully traversed.

As discussed during the interview, Saotome fails to disclose or suggest deforming the thin film to a given shape without the use of an external force, as recited in claim 3.

In contrast, Saotome discloses the use of a micro V-groove die (i.e., press) for the deformation of the thin film, whereas Applicants' invention discloses deforming the thin film without the use of any external force.

Accordingly, Saotome fails to disclose or suggest deforming the thin film to a given shape without the use of an external force, as recited in claim 3.

Further, the Office Action admits, on page 4, that Saotome fails to disclose or suggest heating the thin film to a temperature within the super cooled liquid phase region so that the thin film has a viscous flow between 10^{11} - 10^{13} PaS at a glass transitioned temperature. However, the Office Action attempts to overcome the admitted deficiencies of Saotome by asserting that Johnson teaches the viscous flow within a range of 10^{11} - 10^{13} PaS when heated at a temperature within super cooled liquid phase region.

Although Johnson discloses the equilibrium viscosity of amorphous material is above 10^{13} PaS glass transition temperature, it is respectfully submitted that the viscous flow in Johnson does not particularly fall within the range of the claimed invention. That is, Applicants' invention disclose the viscous flow between 10^{11} - 10^{13} PaS, which includes the range of $10^{11.0...1}$ - $10^{12.999...}$ PaS, and not the lower and upper ranges, (i.e., 11 and 13) respectively. Accordingly, because Johnson discloses that the viscous flow is above 10^{13} PaS, Johnson also excludes 10^{13} PaS and falls outside the claimed range. Thus, Johnson fails to disclose the viscous flow between 10^{11} - 10^{13} PaS at a glass transition temperature, as recited in claim 1.

In item 5, on page 5 of the Office Action, claims 6, 7 and 9-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Saotome in view of Johnson and further in view of Aksyuk (hereinafter "Aksyuk") U.S. Patent No. 5,994,159. The rejection is respectfully traversed.

As discussed above, Saotome and Johnson, fail to disclose or suggest Applicant's claimed invention as found in claim 3, the independent claim from which rejected claims depend. Aksyuk fails to overcome the noted deficiencies of Saotome and Johnson. Aksyuk merely teaches a method of fabricating a thin film structure for micro-mechanical device in which the thin film being 8 is deformed by an external mechanical force. Thus, it is respectfully requested the rejection be withdrawn.

In item 6, on page 11 of the Office Action, claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Saotome in view of Johnson and Aksyuk and further view of EP0762 176 82 to Tregilgas (hereinafter "Tregilga"). The rejection is respectfully traversed.

As discussed above, Saotome and Johnson, individually or in combination, fail to disclose or suggest Applicant's claimed invention as found in claim 3, the independent claim from which the rejected claim depends. Tregilgas fails to overcome the noted deficiencies of Saotome and Johnson. Tregilgas merely teaches a method of producing a thin film structure by forming a beam 24 of an amorphous conductive material (col. 1, lines 49-53). Thus, it is respectfully requested the rejection be withdrawn.

For at least reasons, Applicants respectfully submit that Saotome, Johnson, Aksyuk and Tregilgas, individually or in combination, fail or disclose or render obvious the features recited in independent claim 3. Claims 4-22, which depend from independent claim 3 are likewise distinguished over the applied art for at least the reasons discussed as well as for

additional features they recite. Reconsideration and withdraw of the rejection are respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 3-22 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: October 15, 2003

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